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Abstract

(54) Title: MANUFACTURE OF TOCOPHERYL ACETATE

(57) Abstract: A process for the manufacture of 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate, and optionally therefrom toco-  
pheryl acetate, comprises either C-alkylating 2,3,6-trimethylhydroquinone-1-acetate with isophytol or phytol in the presence of a  
sulphur(VI) containing catalyst of the formula  $R^1SO_2OH$ , wherein  $R^1$  signifies hydroxy, halogen, lower alkyl, halogenated lower  
alkyl or aryl, in an aprotic organic solvent, or O-alkylating 2,3,6-trimethylhydroquinone-1-acetate with a phytol halide in a polar  
aprotic organic solvent in the presence of a base, and subjecting the so-obtained 4-O-phytyl-2,3,6-trimethylhydroquinone-1-acetate  
to a rearrangement reaction, and in each case optionally submitting the so-obtained 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate  
to a ring closure reaction to produce tocopheryl acetate. The invention also includes the novel compound 3-phytyl-2,5,6-trimethylhy-  
droquinone-1-acetate and certain stereoisomers thereof, and also the further novel compound 4-hydroxy-2,3,6-trimethyl-5-[3-(4,8,12-  
trimethyltridecyl)-but-3-enyl]phenyl acetate which itself is one of several isomers of 3-phytyl-2,5,6-trimethylhydroquinone-1-acetate  
formed by isomerization under the influence of heating, e.g. during its distillation as part of the isolation and purification procedure  
following its manufacture as indicated above. (All-rac)- $\alpha$ -tocopherol, which may be derived from its acetate, is known to be the  
most active industrially important member of the vitamin E group.

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